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(12) **United States Patent**
Nakamoto et al.(10) **Patent No.: US 6,516,494 B2**
(45) **Date of Patent: Feb. 11, 2003**(54) **ADJUSTABLE DOOR HINGE**(75) Inventors: **Yusho Nakamoto, Hiroshima (JP);**
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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 19 days.

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(21) Appl. No.: **09/756,058**(22) Filed: **Jan. 8, 2001**(65) **Prior Publication Data**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.⁷** **E05D 7/12**(52) **U.S. Cl.** **16/271; 16/236; 16/238;**
16/241; 16/245; 16/254(58) **Field of Search** 16/134, 236, 237,
16/246, 149, 271, 241, 238, 245, 254; 49/381(56) **References Cited****FOREIGN PATENT DOCUMENTS**

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A hinge is provided which includes a frame-side base member **41** adapted to be attached to an open frame **10** and a door-side base member **42** adapted to be attached to a door **20**. The frame-side base member **41** is connected to a first plate **31** and the door-side base member **42** is connected to a second plate **32** which is hinge connected to the first plate **31**, for holding the door **20** so as to be capable of rotating. The second plate **32** is separable from the door-side base member **42**. The door-side base member **42** is shaped to be symmetrical about the vertical center line of the door edge, and is imbedded in the edge of the door **20** without any protrusions from the door **20**. Further, the door-side base member **42** is provided with a slit **44** which penetrates the member **42** in the width direction of the door **20** and into which the second plate **32** can be inserted from both the front and back sides of the door **20**. There is also provided a lock apparatus to lock the second plate **32** inserted into the slit **44**.

4 Claims, 10 Drawing Sheets